

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: Kurt Fursten Examiner #: 75063 Date: 3/27/03
 Art Unit: 3712 Phone Number 305-0303 Serial Number: 10/091669
 Mail Box and Bldg/Room Location: CP2 10814 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

- Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched.
 Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Refreshable Braille Display System
 Inventors (please provide full names): (see copy of claims)

Earliest Priority Filing Date: 10/10/98

For Sequence Searches Only Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

Focus on polymer layer covering Braille display ^{or overlaying} ~~can~~
 for sheet

Raymond Kurzweil

STAFF USE ONLY

Searcher: JEANNE HARRIGAN

Searcher Phone #: 305-5934

Searcher Location: CP2-2C08

Date Searcher Picked Up: 3/28

Date Completed: 3/31

Searcher Prep & Review Time: 147

Clerical Prep Time: 83

Online Time: 83

Type of Search

NA Sequence (#) _____

AA Sequence (#) _____

Structure (#) _____

Bibliographic ☒

Litigation _____

Fulltext ☒

Patent Family _____

Other _____

Vendors and cost where applicable

STN ☒

Dialog ☒

Questel/Orbit _____

Dr.Link _____

Lexis/Nexis _____

Sequence Systems _____

WWW/Internet _____

Other (specify) _____

March 31, 2003

TO: Kurt Fernstrom, Art Unit 3712
CP2, Room 10-B-14

FROM: Jeanne Horrigan
ASRC Searcher in EIC3700



SUBJECT: Search Results for Serial 10/091669

Attached are the search results for the polymer used in the refreshable Braille display system, including results of inventor and prior art searches in foreign/international patent databases and prior art searches in medical, chemical, computer, and product-related non-patent literature databases.

The results are organized into three sets:

- Results of inventor search in foreign/international patent databases;
- Results of prior art search in foreign/international patent databases; and
- Results of non-patent literature search.

Results appear after the database names and search strategy used for those results. **There were several items that discussed the use of one of the relevant materials for the display. Rather than tag all these items, I tagged only a few that looked like the best hits to me, however, I suggest that you review all of the results.**

Also attached is a search feedback form. Completion of the form is voluntary. Your completing this form would help us improve our search services.

I hope the attached information is useful. Please feel free to contact me (phone 305-5934 or email jeanne.horrigan@uspto.gov) if you have any questions or need additional searching on this application.

Searcher: Jeanne Horrigan
Serial 10/091669
March 28, 2003

1

File 350:Derwent WPIX 1963-2003/UD,UM &UP=200321
File 347:JAPIO Oct 1976-2002/Nov(Updated 030306)
File 371:French Patents 1961-2002/BOPI 200209

Set	Items	Description
S1	4	AU='PRINCE T S'
S2	2	AU='SKEBE G G'
S3	3	AU='LISY F J'
S4	18	AU='SCHMIDT R N'
S5	0	S1 AND S2 AND S3 AND S4
S6	2214	BRAILLE
S7	1	S1:S4 AND S6

File 348:EUROPEAN PATENTS 1978-2003/Mar W03
File 349:PCT FULLTEXT 1979-2002/UB=20030327,UT=20030320

Set	Items	Description
S1	6	AU='PRINCE TROY S' OR AU='PRINCE TROY SHANNON'
S2	4	AU='LISY FREDERICK J'
S3	19	AU='SCHMIDT ROBERT N'
S4	2	S1 AND S2 AND S3 [duplicates]
S5	602	BRAILLE
S6	0	(S1:S3 AND S5) NOT S4

7/7/1 (Item 1 from file: 350)

DIALOG(R)File 350:Derwent WPIX
(c) 2003 Thomson Derwent. All rts. reserv.
013178389 **Image available**
WPI Acc No: 2000-350262/200030

Refreshable Braille display system for use as monitor in computer system for visually impaired using micro-electromechanical actuators

Patent Assignee: ORBITAL RES INC (ORBI-N)

Inventor: LISY F J ; PRINCE T S ; SCHMIDT R N ; SHAW G S

Number of Countries: 085 Number of Patents: 003

Patent Family:

Patent No	Kind	Date	Applicat. No	Kind	Date	Week
WO 200022598	A1	20000420	WO 99US23360	A	19991007	200030 B
AU 9964194	A	20000501	AU 9964194	A	19991007	200036
US 6354839	B1	20020312	US 98169480	A	19981010	200221

Priority Applications (No Type Date): US 98169480 A 19981010

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 200022598	A1	E	29	G09B-021/00	

Designated States (National): AL AM AT AU AZ BA BB BG BR BY CA CH CN CU
CZ DE DK EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC
LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL
TJ TM TR TT UA UG UZ VN YU ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR
IE IT KE LS LU MC MW NL OA PT SD SE SL SZ TZ UG ZW

AU 9964194 A G09B-021/00 Based on patent WO 200022598

US 6354839 B1 G09B-021/00

Abstract (Basic): WO 200022598 A1

NOVELTY - The **Braille** display (2) includes several **Braille** dots (20a,b,c,d) that extend and retract arranged in **Braille** characters forming a **Braille** display. The dots are operable as a personal computer monitor on which information is displayed allowing a blind person to discern the information by reading the **Braille** characters formed by the extended **Braille** dots. A micro-electromechanical device

is connected to each of the dots such that the dots retract and extend based upon the operation of the micro-electromechanical device.

The **Braille** characters are arranged into modules of two rows and twelve columns of characters each.

USE - For use as monitor in computer system to aid visually impaired people in their use of computers.

ADVANTAGE - Rapid refresh rate of **Braille** dots. Convenient presentation of text, spreadsheet and data base information in **Braille**. Allows user to access links or subdirectories without removing hands from display surface. Can be sized and arranged to suit user's needs. Quickly and easily assembled and repaired. Has tactile surface with no holes, gaps or voids.

DESCRIPTION OF DRAWING(S) - The figure shows a section of the **Braille** display system.

Display (2)

Braille dots. (20a,20b,20c,20d)

pp; 29 DwgNo 3/9

Derwent Class: P85; S05; T01; T04

International Patent Class (Main): G09B-021/00

Searcher: Jeanne Horrigan
Serial 10/091669
March 28, 2003

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File 155:MEDLINE(R) 1966-2003/Mar W4

File 5:Biosis Previews(R) 1969-2003/Mar W4

File 73:EMBASE 1974-2003/Mar W4

File 34:SciSearch(R) Cited Ref Sci 1990-2003/Mar W4

File 434:SciSearch(R) Cited Ref Sci 1974-1989/Dec

Set	Items	Description
S1	23	AU='PRINCE T S' OR AU='PRINCE T SCOTT' OR AU='PRINCE T.S.'
S2	8	AU='PRINCE TS'
S3	1	AU='SKEBE GG'
S4	3	AU='LISY F' OR AU='LISY FJ'
S5	5	AU='SCHMIDT R N'
S6	1	AU='SCHMIDT R.N.'
S7	3	AU='SCHMIDT ROBERT N'
S8	6	AU='SCHMIDT RN'
S9	0	S1:S2 AND S3 AND S4 AND S5:S8
S10	932	BRAILLE
S11	1	S1:S8 AND S10 [too recent]

File 155:MEDLINE(R) 1966-2003/Mar W4
File 5:Biosis Previews(R) 1969-2003/Mar W4
File 73:EMBASE 1974-2003/Mar W4
File 34:SciSearch(R) Cited Ref Sci 1990-2003/Mar W4
File 434:SciSearch(R) Cited Ref Sci 1974-1989/Dec
File 144:Pascal 1973-2003/Mar W3
File 2:INSPEC 1969-2003/Mar W3
File 6:NTIS 1964-2003/Mar W5
File 8:Ei Compendex(R) 1970-2003/Mar W3
File 99:Wilson Appl. Sci & Tech Abs 1983-2003/Feb
File 65:Inside Conferences 1993-2003/Mar W3
File 94:JICST-EPlus 1985-2003/Mar W4
File 35:Dissertation Abs Online 1861-2003/Feb
File 233:Internet & Personal Comp. Abs. 1981-2003/Feb
File 248:PIRA 1975-2003/Mar W4
File 202:Info. Sci. & Tech. Abs. 1966-2003/Mar 05
File 583:Gale Group Globalbase(TM) 1986-2002/Dec 13
File 603:Newspaper Abstracts 1984-1988

Set	Items	Description
S1	2028172	POLYMER?? OR THERMOPLASTIC? ? OR OLEFIN?? OR POLYOLEFIN?? - OR RUBBER? ?
S2	598637	POLYVINYL()CHLORIDE OR PVC OR POLYETHYLENE OR POLYURETHANE OR POLYSTYRENE OR POLYPROPYLENE
S3	109815	(ACRYLIC OR CELLULOSIC)()RESIN? ? OR ELASTOMER??
S4	6761	SODIUM()POLYSUL??IDE OR THIOKOL OR POLYCHLOROPRENE OR NEOP- RENE
S5	71220	STYRENE()BUTADIENE OR SBR OR NITRILE OR ACRYLONITRILEBUTAD- IENE OR ACRYLONITRILE()BUTADIENE
S6	8474	EPDM OR ETHYLENE()PROPYLENE()DIENE()RUBBER
S7	11776	POLYISOPRENE OR NATSYN OR BUTYL()RUBBER
S8	29609	POLYACRYLONITRILE OR HYCAR OR POLYSILOXANE
S9	3431	BRAILLE
S10	5059690	COMPUTER? ? OR PC
S11	1341764	SCREEN? ? OR DISPLAY? ? OR MONITOR? ?
S12	340	S9 AND S10 AND S11
S13	2425439	S1:S8
S14	2	S12 AND S13
S15	2	RD (unique items)

15/9/1 (Item 1 from file: 2)

DIALOG(R)File 2:INSPEC

(c) 2003 Institution of Electrical Engineers. All rts. reserv.

5534480 INSPEC Abstract Number: C9705-5540B-006

Title: Different approaches to large tactile screens suitable for graphics

Author(s): Fricke, J.

Author Affiliation: Fern Univ., Hagen, Germany

Conference Title: IEE Colloquium on Developments in Tactile Displays
(Digest No.1997/012) p.6/1-3

Publisher: IEE, London, UK

Publication Date: 1996 Country of Publication: UK 50 pp.

Material Identity Number: XX97-00423

Conference Title: IEE Colloquium on Developments in Tactile Displays
(Digest No.1997/012)

Conference Sponsor: IEE

Conference Date: 21 Jan. 1997 Conference Location: London, UK

Language: English Document Type: Conference Paper (PA)

Treatment: Practical (P)

Abstract: A main goal of current developments is to design very simple elements providing an inherent memory and a way of coincidence addressing. Furthermore, instead of assembling self-contained one-pin- **displays**, modules with more or less integrated actuators driving from 64 to up to 1024 pins will be produced. Replacing assembling by integration can reduce the costs considerably as is well known from integrated electronic circuits. Three approaches are examined and contrasted: a **screen** containing shape memory metal actuators, pins driven by electrorheological fluid and the **polymer** gel approach. (5 Refs)

Subfile: C

Descriptors: **computer displays**; handicapped aids; intelligent actuators; interactive devices; large **screen displays**; mechanoreception; touch sensitive **screens**; user interfaces

Identifiers: large tactile **screens**; graphics use; coincidence addressing; inherent memory; integrated actuators; modules; shape memory metal actuators; electrorheological fluid; **polymer** gel; smart actuators; tactile **displays**; tactile tablets; **braille** users

Class Codes: C5540B (Interactive-input devices); C7850 (Computer assistance for persons with handicaps); C3260N (Intelligent actuators)

Copyright 1997, IEE

15/9/2 (Item 1 from file: 94)

DIALOG(R) File 94:JICST-EPlus

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04591562 JICST ACCESSION NUMBER: 00A0013661 FILE SEGMENT: JICST-E

Mouse with tactile display system for blind.

SHIMOJO MAKOTO (1); ISHIDA TOMOHIRO (1); WATANABE TETSUYA (2)

(1) Ibaraki Univ.; (2) Shogaishashokugyosogose

Nippon Robotto Gakkai Gakujutsu Koenkai Yokoshu, 1999,

VOL.17th,dai3bunsatsu, PAGE.1151-1152, FIG.4, REF.5

JOURNAL NUMBER: X0008AAR

UNIVERSAL DECIMAL CLASSIFICATION: 681.327.2

LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan

DOCUMENT TYPE: Conference Proceeding

ARTICLE TYPE: Short Communication

MEDIA TYPE: Printed Publication

ABSTRACT: Mouse with tactile **display** system for blind people to use GUI is developed. A **screen** reader was used for converting text information on the **screen** to voice. A tactile **display** was used for displaying graphical information on the **screen**. The tactile **display** which is installed in the mouse, has 8*8 pin matrix with 3mm pin pitch. It is planned to coat the surface of pin matrix by **rubber** to supplement the space resolution. The system and discussion of pin-matrix density were shown. (author abst.)

DESCRIPTORS: visually impaired person; speech output unit; tactile sense; mouse(**computer**); graphical user interface; **braille**

BROADER DESCRIPTORS: physically handicapped person; psychosomatic handicapped person; human(sociology); output unit; input output unit; **computer** peripheral equipment; equipment; sense; input unit; user interface; interface; letter

CLASSIFICATION CODE(S): JC04050U

File 95:TEME-Technology & Management 1989-2003/Mar W2
 File 148:Gale Group Trade & Industry DB 1976-2003/Mar 27
 File 727:Canadian Newspapers 1990-2003/Mar 28
 File 781:ProQuest Newsstand 1998-2003/Mar 28
 File 484:Periodical Abs Plustext 1986-2003/Mar W4
 File 16:Gale Group PROMT(R) 1990-2003/Mar 27
 File 160:Gale Group PROMT(R) 1972-1989
 File 275:Gale Group Computer DB(TM) 1983-2003/Mar 27
 File 47:Gale Group Magazine DB(TM) 1959-2003/Mar 26
 File 619:Asia Intelligence Wire 1995-2003/Mar 27

Set	Items	Description
S1	1121868	POLYMER?? OR THERMOPLASTIC? ? OR OLEFIN?? OR POLYOLEFIN?? - OR RUBBER? ?
S2	272704	POLYVINYL()CHLORIDE OR PVC OR POLYETHYLENE OR POLYURETHANE OR POLYSTYRENE OR POLYPROPYLENE
S3	49334	(ACRYLIC OR CELLULOSIC)()RESIN? ? OR ELASTOMER??
S4	13414	SODIUM()POLYSUL??IDE OR THIOKOL OR POLYCHLOROPRENE OR NEOP- RENE
S5	17878	STYRENE()BUTADIENE OR SBR OR NITRILE OR ACRYLONITRILEBUTAD- IENE OR ACRYLONITRILE()BUTADIENE
S6	6213	EPDM OR ETHYLENE()PROPYLENE()DIENE()RUBBER
S7	2916	POLYISOPRENE OR NATSYN OR BUTYL()RUBBER
S8	2458	POLYACRYLONITRILE OR HYCAR OR POLYSILOXANE
S9	9295	BRAILLE
S10	6324810	COMPUTER? ? OR PC
S11	2932817	SCREEN? ? OR DISPLAY? ? OR MONITOR? ?
S12	1804	S9 AND S10 AND S11
S13	1292755	S1:S8
S14	103	S12 AND S13
S15	3	S9(10N)S11(S)S10(S)S13
S16	3	RD (unique items)
S17	3	S9(S)S10(S)S11(S)S13
S18	0	S17 NOT S15
S19	298	S9 AND S13
S20	448176	S10(S)S11
S21	55	S19 AND S20
S22	52	S21 NOT S15
S23	40	RD (unique items)
S24	19	S23/2003 OR S23/2002 OR S23/2001 OR S23/2000 OR S23/1999
S25	21	S23 NOT S24
S26	21	Sort S25/ALL/PD,D

16/7/1 (Item 1 from file: 148)

DIALOG(R)File 148:Gale Group Trade & Industry DB

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05459869 SUPPLIER NUMBER: 11398893 (THIS IS THE FULL TEXT)

JAPAN'S NEC'S NEWLY DEVELOPED BRAILLE COMPUTER TO GO ON MARKET

Kyodo, 1016K0110

Oct 16, 1991

TEXT:

JAPAN'S NEC'S NEWLY DEVELOPED BRAILLE COMPUTER TO GO ON MARKET
 TOKYO (OCT. 16) KYODO - A NEW TYPE OF COMPUTER WITH BRAILLE CONTROLS
 FOR BLIND PEOPLE WILL GO ON MARKET FROM NEXT MONDAY, A SUBSIDIARY OF NEC
 CORP. SAID WEDNESDAY.

THE COMPUTER, NAMED ''BRAILLE PARTNER,'' WAS JOINTLY DEVELOPED BY NEC
 AND KGS CORP., A MANUFACTURER OF EQUIPMENT FOR PHYSICALLY HANDICAPPED

PEOPLE, AND WILL BE PROMOTED BY NEC COMPUTER SYSTEMS LTD.

IN ADDITION TO A USUAL KEYBOARD AND DISPLAY, A BRAILLE PARTNER HAS A COMPONENT CONSISTING OF A BRAILLE KEYBOARD AND A RUBBER DISPLAY WINDOW, TO WHICH THE WORDS BEING INPUT COME UP ON THE **RUBBER** SURFACE SO USERS CAN CONFIRM THEIR WORK, ACCORDING TO NEC **COMPUTER** SYSTEMS.

INPUT CAN ALSO BE CONFIRMED BY A SPECIALLY DEVELOPED VOICE SYNTHESIZER CONNECTED TO THE KEYBOARD, SO ELECTRONIC DICTIONARIES AVAILABLE ON THE MARKET CAN BE USED, THE COMPANY SAID.

AS WELL, THE USUAL TYPE DISPLAY HAS A LETTER-MAGNIFYING FUNCTION FOR WEAK-SIGHTED PEOPLE.

THE OFFICIALS SAID A BASIC BRAILLE PARTNER SET COSTS 1,218,000 YEN. AN ELECTRIC DICTIONARY WILL BE SOLD SEPARATELY AT A COST OF 230,000 YEN.

THE BASIC SET IS MADE FOR JAPANESE LANGUAGE, BUT SOFTWARE FOR ENGLISH AND OTHER FOREIGN LANGUAGES WILL BE DEVELOPED IN THE NEAR FUTURE, THEY SAID.

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16/7/2 (Item 1 from file: 16)

DIALOG(R) File 16:Gale Group PROMT(R)

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05034155 Supplier Number: 47390908

Fingertip access to information by the screenful.

Beard, Jonathon

New Scientist, p24

May 17, 1997

ABSTRACT:

Researchers at Texas Instruments, Dallas, Texas are creating **computer** -actuated Braille pads for blind readers. The team are exploiting the fact that **Braille** books and **computer screens** both use dots to represent data. The rewritable tactile display, patented by the company, could allow blind readers to take in a whole screen of data and use spreadsheets and other charts. Currently, books for the blind and electromechanical **Braille**

displays present letters in a long. This tends to cause problems when tables or columns of numbers are involved. The researchers propose using a matrix of densely packed cylinders each 1.5 millimeters in diameter. The cylinder will contain an organic **polymer** gel that expands in the presence of an electric field. The gel expands and forms a tiny dot when the electric field for that pint is turned on.

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16/7/3 (Item 2 from file: 16)

DIALOG(R) File 16:Gale Group PROMT(R)

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04952771 Supplier Number: 47278281

Patents: Texas Instruments develops a display screen that creates renewable raised dots for Braille readers.

Chartrand, Sabra

The New York Times, pC4

April 7, 1997

ABSTRACT:

Texas Instruments Inc. scientists have received a patent for a display device that makes renewable raised dots on a **computer monitor** that allows blind users to read **Braille**. The devices uses a matrix of small cavities containing a positive and negative electrode. The cavities are filled with a polar organic gel that responds to electric fields. When electricity is applied in a cavity, the gel expands enough to raise a dimple in a **elastomeric** film. The cavities create 1.5 millimeter dots,

the standard Braille size. The electronics in the gel can also make the dots vibrate, allowing the Braille letters to be "highlighted". The **computer** will also register when a dot has been touched, so it will know when to turn a page or when a word or letter has been read. Texas Instruments says the displays can be used for functions from word processing to on-line data bases.

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26/8/12 (Item 12 from file: 148)

DIALOG(R)File 148:(c)2003 The Gale Group. All rts. reserv.

07531427 SUPPLIER NUMBER: 15784707 (USE FORMAT 7 OR 9 FOR FULL TEXT)

ELECTORHEOLOGICAL DEVICES: COMING OF AGE?

Oct 7, 1994

WORD COUNT: 459 LINE COUNT: 00043

COMPANY NAMES: Technology Catalysts International Corp.--Product development

INDUSTRY CODES/NAMES: BUS Business, General

DESCRIPTORS: Scientific equipment and supplies industry--Product development

PRODUCT/INDUSTRY NAMES: 3811200 (Laboratory & Scientific Instruments)

SIC CODES: 3820 Measuring and Controlling Devices

26/8/15 (Item 15 from file: 275)

DIALOG(R)File 275:(c) 2003 The Gale Group. All rts. reserv.

01616579 SUPPLIER NUMBER: 13955627 (USE FORMAT 7 OR 9 FOR FULL TEXT)

Input devices: personal navigators. (evaluation of 17 input devices for graphical computing) (includes related articles on devices for users with special needs and Windows Sources Experts' Pick) (Evaluation)

July, 1993

WORD COUNT: 4552 LINE COUNT: 00349

SPECIAL FEATURES: illustration; photograph; table

COMPANY NAMES: Appoint Inc.--Products; Logitech Inc.--Products; Microsoft Corp.--Products; Honeywell Inc.--Products; MicroSpeed Inc.--Products; International Microcomputer Software Inc.--Products; MotorMouse Products Inc.--Products; Interlink Electronics Inc.--Products; Mouse Systems Corp.--Products; Kensington Microware Ltd.--Products; Wacom Technology Corp.--Products

DESCRIPTORS: Cursor Control Devices; Trackball; Mouse; Evaluation; Graphics Tablet; I/O Device

SIC CODES: 3577 Computer peripheral equipment, not elsewhere classified; 7371 Computer programming services; 7372 Prepackaged software; 3822 Environmental controls; 3669 Communications equipment, not elsewhere classified; 3676 Electronic resistors; 5045 Computers, peripherals & software

TICKER SYMBOLS: IMSFC; HON; LGTKE; MSFT

TRADE NAMES: Appoint MousePen Pro (Input device)--evaluation; International Microcomputer Software PC Stylus (Input device)--evaluation; Interlink Electronics PortaPoint (Input device)--evaluation; Appoint Thumbelina (Trackball)--evaluation; Kensington Microware Expert Mouse (Trackball)--evaluation; Logitech TrackMan (Trackball)--evaluation; Logitech TrackMan Portable (Trackball)--evaluation; Microsoft Ballpoint (Trackball)--evaluation; MicroSpeed MicroTRAC (Trackball)--evaluation; MicroSpeed PC-TRAC (Trackball)--evaluation; Honeywell Mouse (Mouse)--evaluation; Logitech MouseMan (Mouse)--evaluation; Logitech MouseMan Cordless (Mouse)--evaluation; Microsoft Mouse (Mouse)--evaluation; MotorMouse Products MotorMouse (Mouse)--evaluation; Mouse Systems

NewMouse (Mouse)--evaluation; Wacom Technology SD-510C (Graphics tablet)
--evaluation; Wacom Technology SP-310 (Stylus device)--evaluation
OPERATING PLATFORM: MS Windows

26/3,K/5 (Item 5 from file: 484)

DIALOG(R)File 484:Periodical Abs Plustext
(c) 2003 ProQuest. All rts. reserv.
03289511 (USE FORMAT 7 OR 9 FOR FULLTEXT)

Blind workers may see the light

Sunoo, Brenda Paik

Workforce (PEJ), v76 n6, p13, p.01

Jun 1997

ISSN: 1092-8332 JOURNAL CODE: PEJ

DOCUMENT TYPE: News

LANGUAGE: English

RECORD TYPE: Fulltext; Abstract

WORD COUNT: 211

ABSTRACT: A chemist and two colleagues at Texas Instruments Inc have received the patent for a **display** that creates renewable, raised dots on **computer monitors** and other **screens**, which would make it possible for blind people to become **computer** literate.

TEXT:

A **POLYMER** CHEMIST AND TWO COLLEAGUES at Dallas-based Texas Instruments Inc. have received the patent for a **display** that creates renewable, raised dots on **computer monitors** and other **screens**. This technology means the 4.3 million visually impaired Americans, including 512,000 who are blind in both eyes, may one day be as **computer** literate as other Americans.

According to the patent, the Texas Instruments invention "consists of... help companies and device manufacturers comply with the American With Disabilities Act.

Cowers says a **Braille** personal **computer** or laptop would probably cost consumers substantially less than current systems. The **displays** will be able to make word processing, spreadsheets, graphs, CD-ROM materials, e-mail and online databases accessible to **Braille** readers. Moreover, special software will command the **computer** to convey **Braille** dot instructions, rather than the alphabet, to the **screen**. The **screen** also will run **Braille** in English or other languages.

...DESCRIPTORS: **Braille**

26/3,K/6 (Item 6 from file: 484)

DIALOG(R)File 484:Periodical Abs Plustext
(c) 2003 ProQuest. All rts..reserv.
03258399 (USE FORMAT 7 OR 9 FOR FULLTEXT)

Issues and aids for teaching mathematics to the blind

Dick, Thomas; Kubiak, Evelyn

Mathematics Teacher (IMTT), v90 n5, p344-349, p.6

May 1997

ISSN: 0025-5769 JOURNAL CODE: IMTT

DOCUMENT TYPE: Feature

LANGUAGE: English

RECORD TYPE: Fulltext; Abstract

WORD COUNT: 3572

TEXT:

... Most of us have had occasion to use a touch **screen** on an automated teller machine or an information kiosk. Advances in tactile **computer** interfaces as well as in voice synthesis and recognition hold great promise for aiding visually...Certain software converts a computer into a

voiceoutput calculator. Software that converts Blazie Engineering's **Braille** 'n Speak and Type 'n Speak to calculators is available from the Internet through anonymous ftp from handicap.afd.olivetti.com in the /pub/**braille** directory as CALCBNS.ZIP...

26/3,K/8 (Item 8 from file: 16)

DIALOG(R)File 16:Gale Group PROMT(R)

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04610293 Supplier Number: 46781265 (USE FORMAT 7 FOR FULLTEXT)

Not-for-profit molder makes changes with help of disabled

Plastics News, p30

Oct 7, 1996

Language: English Record Type: Fulltext

Document Type: Magazine/Journal; Trade

Word Count: 496

... equipment modifications or specialized equipment to do their jobs. As the company moves toward newer, **computer** -aided molding equipment, it is working with a software manufacturer to create controls that use both icons and digital speech to assist blind operators who **monitor** the presses.

"We believe this will be useful not only for the blind but will...
...the low literacy rates among workers in many areas.

Becker explained that the use of **braille** on the control keypads would not be that beneficial because only about 20 percent of blind people can read **braille** .

Signature Works is expanding internationally. Last month, Becker went to Monterrey, Mexico, to announce the...

INDUSTRY NAMES: BUSN (Any type of business); CHEM (Chemicals, Plastics and **Rubber**)

26/3,K/16 (Item 16 from file: 16)

DIALOG(R)File 16:Gale Group PROMT(R)

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01995788 Supplier Number: 42559003

Braille Personal Computer for Visually Handicapped Persons

New Technology Japan, p30

Dec, 1991

Language: English Record Type: Abstract

Document Type: Magazine/Journal; Trade

ABSTRACT:

NEC (Tokyo, Japan) has devised a **Braille** personal **computer** (**PC**) that can be used by the visually impaired and also by those who do not know **Braille** . The **PC** includes a conventional keyboard and **display** and a **Braille** keyboard and **Braille** pin **display** , as well as a voice synthesis function and expanded character **display** . The **Braille** /speech conversion feature also enables **Braille** and speech information **display** at once. The system allows use of CD-ROM information, and is intended to aid...

INDUSTRY NAMES: BUSN (Any type of business); CHEM (Chemicals, Plastics and **Rubber**); INTL (Business, International); METL (Metals, Metalworking and Machinery)

26/3,K/21 (Item 21 from file: 148)

DIALOG(R)File 148:Gale Group Trade & Industry DB

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02033140 SUPPLIER NUMBER: 03293498 (USE FORMAT 7 OR 9 FOR FULL TEXT)

Computers and the handicapped.

Vrcan, Lori

School Product News, v23, p45(4)

June, 1984

ISSN: 0036-6749

LANGUAGE: ENGLISH

RECORD TYPE: FULLTEXT

WORD COUNT: 1693

LINE COUNT: 00130

... the computer adaptations that are currently available.

For visually impaired students there are "large print **computers** that **display** larger than normal print so that the visually impaired person can see for the first time what's actually on the **screen**," said Hagen. "Also, there are translating programs available that will translate between English text and Grade II **Braille** .

"Many individuals who use **Braille** are simply incapable of seeing the screen no matter at what size the type is...

...to. Up to this point, any blind individual who was going to read something by **Braille** had to rely on the intervention of a third party to prepare that in **Braille** ."

One of the most important computer devices for the hearing impaired and deaf is the...In that particular case, said Hagen, a heavy-duty grain-bin switch padded with foam **rubber** serves as the keyboard emulator. "Because it is well padded, it doesn't hurt his...

File 635:Business Dateline(R) 1985-2003/Mar 28
 File 636:Gale Group Newsletter DB(TM) 1987-2003/Mar 27
 File 649:Gale Group Newswire ASAP(TM) 2003/Mar 27
 File 728:Asia/Pac News 1994-2003/Mar W4
 File 813:PR Newswire 1987-1999/Apr 30
 File 621:Gale Group New Prod. Annou. (R) 1985-2003/Mar 27
 File 613:PR Newswire 1999-2003/Mar 28
 File 9:Business & Industry(R) Jul/1994-2003/Mar 27
 File 141:Readers Guide 1983-2003/Feb
 File 13:BAMP 2003/Mar W3
 File 441:ESPICOM Pharm&Med DEVICE NEWS 2003/Mar W4
 File 442:AMA Journals 1982-2003/Jul B2
 File 444:New England Journal of Med. 1985-2003/Mar W5
 File 149:TGG Health&Wellness DB(SM) 1976-2003/Mar W2
 File 98:General Sci Abs/Full-Text 1984-2003/Feb

Set	Items	Description
S1	331845	POLYMER?? OR THERMOPLASTIC? ? OR OLEFIN?? OR POLYOLEFIN?? - OR RUBBER? ?
S2	98458	POLYVINYL()CHLORIDE OR PVC OR POLYETHYLENE OR POLYURETHANE OR POLYSTYRENE OR POLYPROPYLENE
S3	24835	(ACRYLIC OR CELLULOSIC)()RESIN? ? OR ELASTOMER??
S4	5513	SODIUM()POLYSUL??IDE OR THIOKOL OR POLYCHLOROPRENE OR NEOP- RENE
S5	6414	STYRENE()BUTADIENE OR SBR OR NITRILE OR ACRYLONITRILEBUTAD- IENE OR ACRYLONITRILE()BUTADIENE
S6	1522	EPDM OR ETHYLENE() PROPYLENE() DIENE() RUBBER
S7	657	POLYISOPRENE OR NATSYN OR BUTYL()RUBBER
S8	880	POLYACRYLONITRILE OR HYCAR OR POLYSILOXANE
S9	3853	BRAILLE
S10	3419275	COMPUTER? ? OR PC
S11	1288643	SCREEN? ? OR DISPLAY? ? OR MONITOR? ?
S12	818	S9 AND S10 AND S11
S13	413399	S1:S8
S14	35	S12 AND S13
S15	30	RD (unique items)
S16	13	S15/2003 OR S15/2002 OR S15/2001 OR S15/2000 OR S15/1999
S17	17	S15 NOT S16
S18	8	S9(S)S10(S)S11 AND S13
S19	7	RD (unique items)
S20	6	S17 AND S19
S21	6	Sort S20/ALL/PD,D
S22	1	S19 NOT S20
S23	11	S17 NOT S20
S24	11	Sort S23/ALL/PD,D[not relevant]

21/3,K/1 (Item 1 from file: 98)

DIALOG(R)File 98:General Sci Abs/Full-Text

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03535012 H.W. WILSON RECORD NUMBER: BGS197035012 (USE FORMAT 7 FOR
 FULLTEXT)

The universe in your hands.

AUGMENTED TITLE: Kent Cullers, blind astronomer and project manager for
 SETI

Airhart, Marc G

Mercury (San Francisco, Calif.) (Mercury) v. 26 (July/Aug. '97) p. 14-17

DOCUMENT TYPE: ; Individual biography

SPECIAL FEATURES: por ISSN: 0047-6773

LANGUAGE: English

COUNTRY OF PUBLICATION: United States

WORD COUNT: 2688

TEXT:

... late at night, and now he needs to get working immediately. He throws his portable **computer** on the desk, plugs in the phone line and speech processor, and turns it on...

...progress has been slow, and there is a downside to the new technology. Listening to **computer** speech is cheaper and easier than reading **Braille**, and that is not necessarily good: Many children are learning that it's all right...

...takes him quite a bit of thought to come up with one: Abraham Nemeth, the **computer** programmer who developed a generalized code for writing mathematics in **Braille**. "There were no ways to write higher mathematics," Cullers says. "[Nemeth's code] had many...blind physicists."

While at the University of California in Berkeley, he became an expert in **computer** programming and data analysis to understand Earth's upper atmosphere. When he heard about NASA's SETI plans, he realized that he had devised **computer** algorithms that could help to extract an intentional signal from noise. Today, he manages the...

...of simple signals. So I knew when I began this project what to tell the **computer** to do. I knew what kinds of mathematical forms to use -- that Fourier analysis would...

...being can do the analysis anyway, so the fact that I couldn't see the **screen** didn't matter. And the fact that my ears influenced the way I thought made...

...of tools, both cutting-edge and traditional. He often relies on sound to read graphs. **Computer** software converts a two-dimensional graph of data points into a series of rising and...

...converting his speech into text.

Even though speech recognition and synthesis are increasing in importance, **Braille** is still essential for scholarly work. In fact, Cullers says he worries that **computer** speech is discouraging blind children from ever learning to read **Braille**.

"You cannot do good physics or good engineering with precision without good mathematics," he says...

...To address this need, electrical and mechanical engineers have developed a textural counterpart to the **computer monitor**: a soft **display** that forms a line of **Braille** text by raising and lowering a series of solenoids. When the reader finishes the line, the **display** changes to represent the characters in the next line. There's also the "opticon" -- a camera that converts images on a **computer screen** or the printed page to a texture that can be felt on a small pad...

...who make raised line drawings of graphs and images by using a pen and a **rubber** mat. As the pen is run over the image, it makes raised lines on a...
...don't make sense to people who have only ever read with their fingers.

A **COMPUTER** FOR THE REST OF US?

Yet every silver lining has a cloud. When **computers** become more intuitive for the sighted, they become more frustrating for the blind.

"Five or six years ago," says Cullers, "there was a peak. **Computers** were most blind-friendly. Things were essentially text-driven. And you had menus with letters...

...still be way ahead of where it was a decade ago. "I live on the **computer** all day long," Cullers says. "If I have to battle it a little more, then notes on tape in class and then **Braille** them all later on. Or

where I had to first do my mathematics in **Braille** then type it all up so the professors could see my work. Nothing is as...
...t complain very much."

Science educators are also starting to draw on a mix of **computer** technology and old-fashioned tools to include everybody in their programs. Blind people entering the...

...a guidebook with four or five raised images of comets, planets, and constellations, along with **Braille** descriptions. In the dark planetarium, they read the raised dots with their hands, while sighted...
...satellites, and the planetarium projector.

Noreen Grice, an education associate at the planetarium, prepares the **Braille** guides and helps to orient visually impaired visitors. For the deaf, she and engineers at...

...into the seat. With one minute's notice, we can install the units, click the **computer** on to the correct show, and the words are printed on the **monitor** ." In the past, teachers had to use an interpreter with a lamp and a script...

...the visually impaired. She printed the astronomical pictures in raised dots, and labeled each with **Braille** . Originally published in 1990, Touch the Stars is still available from the Boston Museum of...

...the other hand, every day I get to come to the office and play with **computers** , design things, and there are all kinds of good toys all over my desk. And...

21/3,K/2 (Item 2 from file: 636)

DIALOG(R) File 636:Gale Group Newsletter DB(TM)

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02563969 Supplier Number: 45175849 (USE FORMAT 7 FOR FULLTEXT)

ELECTROREOLOGICAL DEVICES COMING OF AGE?

Electro Manufacturing, v7, n12, pN/A

Dec, 1994

Language: English Record Type: Fulltext

Document Type: Newsletter; Trade

Word Count: 417

... develop a more consistent braking force due to reduced heat build-up.

ER-based specialty **elastomers** used in an engine mount stiffen upon the application of an electric field, eliminating the...

...run" when heated during curing. End-product performance is now more predictable.

ER-based tactile **screens** form the basis for **computer** keyboards for the blind. This enables the blind to read drawings without first printing the drawing on a **Braille** printer.

For more information, call Christopher Michaels, associate manager of Technology Catalysts International, at 703...

21/3,K/5 (Item 5 from file: 621)

DIALOG(R) File 621:Gale Group New Prod. Annou. (R)

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01129635 Supplier Number: 41057466 (USE FORMAT 7 FOR FULLTEXT)

ULTRACEL (TM) FOAM TAPPED AS ONE OF TOP HUNDRED INVENTIONS

News Release, p1

Dec 8, 1989

Language: English Record Type: Fulltext

Document Type: Magazine/Journal; Trade

Word Count: 356

DANBURY, CT--Union Carbide's ULTRACEL (TM) foam technology, which allows **polyurethane** foam cushioning to be made without the use of chlorofluorocarbons (CFCs), has been cited as...

...Engineering in Chicago.

ULTRACEL foam is a chemical system developed by Union Carbide for making **polyurethane** foam cushioning used in upholstered furniture and bedding. It is unique in that it is...

...as a plastic automobile

engine, reduced calorie flour, a system that converts images off a **computer screen to braille**

, and a device to see if babies' brains are getting enough oxygen, on the list...

NAICS CODES: 32615 (Urethane and Other Foam Product (except **Polystyrene**) Manufacturing)

(FILE 'HOME' ENTERED AT 13:48:51 ON 28 MAR 2003)
FILE 'REGISTRY' ENTERED AT 13:49:12 ON 28 MAR 2003
E ELASTOMERIC POLYMER
E ELASTOMERIC POLYMER/CN
E POLYMER/CN
E THERMOPLASTIC OLEFIN/CN
FILE 'HCAPLUS' ENTERED AT 13:50:02 ON 28 MAR 2003
L1 10634 S (ELASTOMERIC OR THERMOPLASTIC) () (POLYMER OR POLYMERS OR
OLE
L2 112 S BRAILLE
L3 0 S L1 AND L2
L4 1661436 S POLYMER? OR OLEFIN? OR POLYOLEFIN?
L5 25 S L2 AND L4
L6 106771 S ELASTOMERIC OR THERMOPLASTIC? OR CONTINUOUS() (COATING? OR
FIL
L7 3 S L5 AND L6
L8 27240 S MODULUS (2N)ELASTIC?
L9 616217 S THICK?
L10 6550 S SHAPE MEMORY ALLOY?
L11 6 S L8 AND L9 AND L10
L12 0 S L5 AND L11
L13 5 S L5 AND (L8 OR L9 OR L10)
L14 5 S L13 NOT L7
FILE 'MEDLINE, BIOSIS, EMBASE' ENTERED AT 13:55:41 ON 28 MAR 2003
L15 142 S L1
L16 0 S L1 AND L2
L17 1 S L2 AND L4
L18 0 S L2 AND L6
L19 0 S L2 AND L10

L7 ANSWER 1 OF 3 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:675936 HCAPLUS
DOCUMENT NUMBER: 137:202381
TITLE: Laser-markable laminated ***polyolefin*** films
INVENTOR(S): Busch, Detlef; Roth, Matthias
PATENT ASSIGNEE(S): Trespaphan G.m.b.H., Germany
SOURCE: PCT Int. Appl., 38 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002068192	A1	20020906	WO 2002-EP1947	20020225
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				

PRIORITY APPLN. INFO.:

DE 2001-10109253 A 20010226

AB A laminate of .gtoreq.2 ***thermoplastic*** , multilayer, oriented
polyolefin films (A and B), whereby A is a transparent film
consisting of a base layer contg. 1-10 wt.% of a laser light-absorbing
pigment and .gtoreq.1 surface layer based on propylene ***polymers*** ,
and B an opaque film consisting of a base layer contg. 1-10 wt.% of a
vacuole-forming filler, .gtoreq.1 interlayer (free of vacuole-forming
fillers) and .gtoreq.1 surface layer which preferably contains 1-15 wt.%
TiO2 is laser-markable with a Nd-Yag laser at a wavelength range
300-10,000 nm. The laser light-absorbing pigment is a SiO2, esp. a mica
mineral, surficial coated with metal oxides such as SbO, SnO and/or TiO2
and the vacuole-forming filler may be CaCO3, PET or PBT. Both films A

and

B may be joined by an adhesive or by (melt) extrusion lamination. The
laminate is suitable for manuf. of high-contrast dark markings as well as
for tactile markings and inscriptions (***braille***) esp. labels for
food containers, and for (easy opening) food packagings.

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE

FORMAT

L7 ANSWER 3 OF 3 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1981:433509 HCAPLUS

DOCUMENT NUMBER: 95:33509

TITLE: Producing a relief

INVENTOR(S): Yonezawa, Yoshimichi

PATENT ASSIGNEE(S): Matsumoto Yushi-Seiyaku Co., Ltd., USA

SOURCE: U.S., 7 pp.

CODEN: USXXAM

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 4268615	A	19810519	US 1979-42511	19790525

PRIORITY APPLN. INFO.: US 1979-42511 19790525

AB A method for producing the relief for use as a ***braille*** article
for the blind comprises application of a strongly light absorbing pattern
layer (a black toner) to a support which increases in vol. under heating
and is made of a mixt. of a binder and a spherical ***thermoplastic***
microcapsules contg. a low-boiling volatile substance encapsulated in a
shell of a ***polymeric*** material and a uniform irradiation to
selectively heat the portion of the support surface adjacent to the
pattern undersurfaces causing the rise of the pattern layer above the
sheet surface.

L14 ANSWER 2 OF 5 HCAPLUS COPYRIGHT 2003 ACS

AN 2002:427878 HCAPLUS

DN 136:402951

TI Printing paper for ***braille*** labels manufactured by laminating the
back of PET films with paper, nonwoven fabrics or styrene ***polymers***
to form an auxiliary deformable layer and laminating the deformable layer
with a tackifying layer and a release paper

L14 ANSWER 3 OF 5 HCAPLUS COPYRIGHT 2003 ACS
AN 2000:89291 HCAPLUS
DN 132:144437
TI Ink-jet printing using UV-curable inks and the printed matter

L14 ANSWER 4 OF 5 HCAPLUS COPYRIGHT 2003 ACS
AN 2000:88394 HCAPLUS
DN 132:124302
TI ***Thick*** film-forming ink-jet inks

L14 ANSWER 5 OF 5 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1996:712397 HCAPLUS
DOCUMENT NUMBER: 125:331848
TITLE: ***Braille*** printed materials of acrylic styrene
polymer -based cellular resin layers on
supports and thermally foamable printing inks
INVENTOR(S): Ubukawa, Hiroaki; Oshiki, Kenichi
PATENT ASSIGNEE(S): Dainippon Printing Co Ltd, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 08238837	A2	19960917	JP 1995-70445	19950306

PRIORITY APPLN. INFO.: JP 1995-70445 19950306
AB Printing inks for raised types comprise acrylic styrene ***polymers***
, which may be blends of resins having different min. film-forming temps.
(T), and surface modifiers. Thus, a compn. of an acrylic styrene
polymer (A) with T 60.degree. 50, A with T 10.degree. 40, fine
powd. talc 20, a low-b.p. hydrocarbon blowing agent 10, diethylene glycol
10, an antifoaming agent 2, a nonionic surfactant dispersing agent 2, an
acrylic resin ***thickener*** 2, and a water-thinned dispersing pigment 2
parts was screen printed on paper (showing no screen clogging after printing
500 sheets) and heated by IR to give raised types giving no harm on finger.

L17 ANSWER 1 OF 1 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V.
ACCESSION NUMBER: 97025167 EMBASE
DOCUMENT NUMBER: 1997025167
TITLE: Tactile maps: New materials and improved designs.
AUTHOR: Horsfall B.
CORPORATE SOURCE: Dr. B. Horsfall, Department of Geography, Simon Fraser
University, Burnaby, BC V5A 1S6, Canada. horsfall@sfu.ca
SOURCE: Journal of Visual Impairment and Blindness, (1997) 91/1
(61-65).
Refs: 7
ISSN: 0145-482X CODEN: JVIBDM
COUNTRY: United States
DOCUMENT TYPE: Journal; General Review
FILE SEGMENT: 012 Ophthalmology
027 Biophysics, Bioengineering and Medical
Instrumentation
LANGUAGE: English
SUMMARY LANGUAGE: English

AB This article evaluates the relative strengths of different ways to make tactile maps, including new photopolymers (plastics that harden with exposure to light) and computer-assisted design (CAD). Photopolymers yield crisp and precise images and produce excellent masters for vacuum forming maps. CAD allows for quick design and proofreading and the easy modification of images and text. High-quality tactile maps can be easily produced and refined by almost anyone using this technology.

(FILE 'HOME' ENTERED AT 14:30:49 ON 28 MAR 2003)

FILE 'REGISTRY' ENTERED AT 14:30:58 ON 28 MAR 2003

	E SYNTHETIC RUBBER/CN
L1	1 S E3
	E POLYVINYL CHLORIDE/CN
L2	1 S E3
	E POLYETHYLENE/CN
L3	1 S E3
	E POLYURETHANE/CN
L4	1 S E9
	E POLYSTYRENE
	E POLYSTYRENE/CN
L5	1 S E3
	E POLYPROPYLENE/CN
L6	1 S E3
	E ACRYLIC RESIN/CN
L7	1 S E6
	E CELLULOSIC RESIN/CN
	E ELASTOMER/CN
L8	3 S E8
	E SODIUM POLYSULFIDE/CN
L9	1 S E3
	E THIOKOL/CN
	E POLYCHLOROPRENE/CN
L10	2 S E3 OR E4
	E NEOPRENE/CN
L11	1 S E3
	E STYRENE BUTADIENE/CN
L12	1 S E4
	E SBR/CN
L13	1 S E3
	E ACRYLONITRILEBUTADIENE/CN
	E ACRYLONITRILE-BUTADIENE/CN
L14	1 S E8
	E NITRILE/CN
	E EPDM RUBBER/CN
L15	1 S E3
	E POLYISOPRENE/CN
L16	1 S E3
	E NATSYN/CN
	E BUTYL RUBBER/CN
L17	1 S E3
	E POLYACRYLONITRILE/CN
L18	1 S E3
	E POLYSILOXANE/CN
	E VULKOLLAN/CN
L19	1 S E3

FILE 'HCAPLUS, MEDLINE, EMBASE, BIOSIS' ENTERED AT 14:37:36 ON 28 MAR 2003

L20	37971 S COMPUTER AND (SCREEN OR SCREENS OR DISPLAY OR DISPLAYS OR MON
L21	828 S BRAILLE
L22	423889 S L1 OR L2 OR L3 OR L4 OR L5 OR L6 OR L7 OR L8 OR L9 OR L10 OR
L23	0 S L20 AND L21 AND L22
L24	77 S L20 AND L22
L25	10 S L21 AND L22
L26	674916 S SCREEN OR SCREENS OR DISPLAY OR DISPLAYS OR MONITOR OR MONITO

L27 1 S L25 AND L26
L28 299683 S BLIND
L29 0 S L24 AND L28
L30 9 S L25 NOT L27

L27 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1978:581375 HCAPLUS
DOCUMENT NUMBER: 89:181375
TITLE: Printing ink and method for ***Braille*** printing
INVENTOR(S): Brand, Gerald
PATENT ASSIGNEE(S): Kissel und Wolf G.m.b.H., Fed. Rep. Ger.
SOURCE: Ger., 3 pp.
CODEN: GWXXAW
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 2529043	A1	19770127	DE 1975-2529043	19750630
DE 2529043	B2	19780720		
DE 2529043	C3	19790329		
BE 843611	A1	19761018	BE 1976-168486	19760630
NL 7607224	A	19770103	NL 1976-7224	19760630
FR 2316078	A1	19770128	FR 1976-19988	19760630
FR 2316078	B3	19790323		

PRIORITY APPLN. INFO.: DE 1975-2529043 19750630
AB ***Braille*** printing is effected without mech. embossing by
screen printing on paper or plastic with an ink contg. plastics
and blowing agents, drying, and heating to gel and expand the plastic.
Thus, a mixt. of plastisol PVC [***9002-86-2***] 60, DOP 28, benzyl
Bu phthalate 12, stabilizer 1.5, SO₂(C₆H₄SO₂NHNH₂-m)₂ 1.5, chalk 50, oleyl
oleate 5, and pyrolytic SiO₂ 1 part is ***screen*** printed on paper
to 200 .mu., dried, printed on the other side, and the paper is heated
5-10 min at 180.degree. to give foam thickness 500-700 .mu..

L30 ANSWER 6 OF 9 HCAPLUS COPYRIGHT 2003 ACS
AN 1996:630272 HCAPLUS
DN 125:249795
TI Manufacture of ***braille*** tiles

L30 ANSWER 1 OF 9 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:675936 HCAPLUS
DOCUMENT NUMBER: 137:202381
TITLE: Laser-markable laminated polyolefin films
INVENTOR(S): Busch, Detlef; Roth, Matthias
PATENT ASSIGNEE(S): Trespaphan G.m.b.H., Germany
SOURCE: PCT Int. Appl., 38 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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head cover with Shore A hardness 70 and vivid color.

L30 ANSWER 4 OF 9 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1998:307194 HCAPLUS

DOCUMENT NUMBER: 129:10684

TITLE: Thermal-transfer printing for risen patterns, sheets therefor, and pattern-transferred sheets therefrom

INVENTOR(S): Sawa, Yoshihiro; Hirose, Eiji

PATENT ASSIGNEE(S): Dainippon Printing Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 10129134	A2	19980519	JP 1996-285125	19961028
PRIORITY APPLN. INFO.:			JP 1996-285125	19961028

AB The sheets have thermally-expandable layers (A) which contain blowing agents and resin binders of no.-av. mol. wt. 1,000-30,000, and are transferred as risen patterns (such as ***braille***) to another sheets by hot stamping. The sheets may include release layers comprising waxes and rubbers. The sheets forming thus-transferred risen patterns with height 10-100 .mu.m corresponding to 2-8 times of the original thickness of A, are also claimed.

L30 ANSWER 5 OF 9 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1998:226972 HCAPLUS

DOCUMENT NUMBER: 128:271392

TITLE: Projection forming process for thermoplastic resin sheets

INVENTOR(S): Takebe, Masayoshi; Iwasaki, Moriyoshi

PATENT ASSIGNEE(S): Daicel Chemical Industries, Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 4 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 10095044	A2	19980414	JP 1996-271735	19960920
PRIORITY APPLN. INFO.:			JP 1996-271735	19960920

AB The title process, useful for letterpress, ***braille*** , surface decoration, etc. (no data), consists of exposing the specific area of a plastic sheet (e.g., of polystyrene) to laser radiation to soften or melt the area and forming projections.

L30 ANSWER 8 OF 9 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1990:140842 HCAPLUS

DOCUMENT NUMBER: 112:140842

TITLE: Coated polyester films useful as supports for ***braille*** printing

INVENTOR(S): Morganti, Steven J.

PATENT ASSIGNEE(S): du Pont de Nemours, E. I., and Co., USA

SOURCE: Eur. Pat. Appl., 12 pp.

CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 340772	A1	19891108	EP 1989-108064	19890504
EP 340772	B1	19920826		
R: AT, BE, CH, DE, ES, FR, GB, GR, IT, LI, LU, NL, SE				
JP 01317766	A2	19891222	JP 1989-112313	19890502
AU 8933947	A1	19900517	AU 1989-33947	19890503
AU 605976	B2	19910124		
AT 79806	E	19920915	AT 1989-108064	19890504
PRIORITY APPLN. INFO.:			US 1988-190275	19880504
			EP 1989-108064	19890504

AB Films with good durability, feel, and quality for the title use are prepd. from polyester films with antistatic layer on the 1 side, and matte layer on the opposite side. A 0.10-mm PET film contg. alkyl acrylate-itaconic acid-vinylidene chloride copolymer was coated an antistatic layer on 1 side and gelatin layer overcoated with matte layer of polyethylene beads dispersed in a gelatin binder on the opposite side to give a film capable of accepting more ***braille*** cells with superior durability, feel, and quality than high-quality paper

File 350:Derwent WPIX 1963-2003/UD,UM &UP=200321
File 347:JAPIO Oct 1976-2002/Nov(Updated 030306)
File 371:French Patents 1961-2002/BOPI 200209
Set Items Description
S1 1827317 POLYMER?? OR THERMOPLASTIC? ? OR OLEFIN?? OR POLYOLEFIN?? -
OR RUBBER? ?
S2 501568 POLYVINYL()CHLORIDE OR PVC OR POLYETHYLENE OR POLYURETHANE
OR POLYSTYRENE OR POLYPROPYLENE
S3 136005 (ACRYLIC OR CELLULOSIC) () RESIN? ? OR ELASTOMER??
S4 8461 SODIUM() POLYSUL??IDE OR THIOKOL OR POLYCHLOROPRENE OR NEOP-
RENE
S5 113505 STYRENE() BUTADIENE OR SBR OR NITRILE OR ACRYLONITRILEBUTAD-
IENE OR ACRYLONITRILE() BUTADIENE
S6 5868 EPDM OR ETHYLENE() PROPYLENE() DIENE() RUBBER
S7 15022 POLYISOPRENE OR NATSYN OR BUTYL() RUBBER
S8 44703 POLYACRYLONITRILE OR HYCAR OR POLYSILOXANE
S9 2214 BRAILLE
S10 655709 COMPUTER? ? OR PC
S11 1255697 SCREEN? ? OR DISPLAY? ? OR MONITOR? ?
S12 2058 IC=G09B-021/00
S13 2119316 S1:S8
S14 126 S9 AND S10 AND S11
S15 5 S13 AND S14
S16 2 S12 AND S15
S17 3 S15 NOT S16

16/7/1 (Item 1 from file: 350)

DIALOG(R) File 350:Derwent WPIX

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010612830 **Image available**

WPI Acc No: 1996-109783/199612

Low -cost, large- scale , refreshable tactile Braille display device
- comprises many cavities filled with polar organic gel which changes
in vol. with changes in applied electric field

Patent Assignee: TEXAS INSTR INC (TEXI)

Inventor: COWENS M W; GILKES A M; TAYLOR L A

Number of Countries: 002 Number of Patents: 002

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
JP 8006493	A	19960112	JP 94200049	A	19940721	199612 B
US 5580251	A	19961203	US 9395634	A	19930721	199703
			US 94286108	A	19940804	
			US 95509946	A	19950801	

Priority Applications (No Type Date): US 9395634 A 19930721; US 94286108 A
19940804; US 95509946 A 19950801

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 8006493	A	12	G09B-021/00		
US 5580251	A	7	G09B-021/00		Cont of application US 9395634 Cont of application US 94286108.

Abstract (Basic): US 5580251 A

A **Braille display** device comprises many polar organic gel
cavities, 1-2 mm in dia. and 0.5-1.5 mm in depth, having a positive and
negative electrode, where the polar organic gel is sensitive to
electric fields and changes in vol. with a change in electric field,
and each one of the cavities is individually self-contained; with

circuitry to individually excite the gel cavities.

Also claimed is a gel cavity for creating a protrusion from the surface of the cavity, having a bottom, walls and top enclosing the cavity which is about 1-2 mm in dia. and about 0.5-1.5 mm in depth, and comprising an electrode at the bottom, polar organic gel filling the cavity, a metal wall surrounding the cavity, an **elastomeric** film at the top enclosing the cavity, a first insulator surrounding the cavity at its top, and a second insulator surrounding the electrode at the bottom of the cavity.

Pref. the device further includes circuitry to vibrate a portion of the many gel cavities. The polar organic gel is selected from poly(isopropylacrylamide), poly(acrylamide), poly(vinyl alcohol) and poly(N-propylacrylamide). The gel cavities are sealed by an **elastomeric** film which is held generally flat, by its own tension, in the absence of any voltage applied to the electrodes in the gel cavity. The device may further include circuitry to determine whether the cavity has been touched by the person reading the **display**. The electrode at the bottom of the gel cavity comprises a flat metal disc or a cone-shaped metal structure.

USE - These electronic tactile **displays** can be used for **Braille** text and graphics for the blind. In the form of a small, text-only **display**, they can function as a **Braille** output for an ATM machine and in the form of a full page **Braille** -and-graphics **display**, can attach to a classroom, library or office **computer**, so that both a blind and sighted user have their respective 'CRT's.

ADVANTAGE - This low-cost, large-scale, refreshable tactile **display** can **display** multiple lines of **Braille** text and dot graphics, simultaneously, in bas-relief form. It can be at least two orders of magnitude lower, in both cost and power consumption, than any comparably-sized **display** of prior art. It is potentially superior in reliability and prod. life span, because the only moving parts are gel **polymer** materials and pieces of **elastomeric** film. It is as easily software-programmable as the bit-mapped video **displays** currently used by the sighted. This device can therefore make **Braille** text and tactile graphics available inexpensively from a wide variety of sources currently inaccessible to the blind. This key technical development could transform the membership of the blind community from a minority to a large majority of **Braille** readers.

Dwg. 6/6

Derwent Class: A85; P75; P85; S05; T04; T05; W05

International Patent Class (Main): **G09B-021/00**

International Patent Class (Additional): B41J-003/32; G08B-006/00

16/7/2 (Item 2 from file: 350)

DIALOG(R) File 350:Derwent WPIX

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007359655

WPI Acc No: 1987-356661/198751

Computer interface for blind operator - has braille display panel with editing line and keys for selection of whole document or desired portions

Patent Assignee: SIEMENS OSTERR AG (SIEI)

Inventor: CHLUMSKY L; ZAGLER W

Number of Countries: 013 Number of Patents: 004

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
EP 249920	A	19871223	EP 87108589	A	19870615	198751 B

FILED: May 21, 1997 (19970521)

ABSTRACT

PROBLEM TO BE SOLVED: To provide a **braille** dot output system whereby a visually handicapped person can optionally select information displayed on a **display screen** of a **computer** , put selected information in **braille** and output by himself or herself.

SOLUTION: Acquisition of optional information displayed on a **display screen** connected to a **computer** 1 is designated by an input device 5 or the like, and the designated information is output from the **computer** 1. The output is converted to **braille** signals with the use of a CPU 7, a ROM 8 and a RAM 9. The converted **braille** signals are output one by one sequentially for every predetermined time. A head driver 10 receiving the **braille** signals projects pins corresponding to the **braille** signals among a plurality of pins constituting a **braille** arrangement of a **braille** head part 11, thereby putting the signals into **braille** .

File 348:EUROPEAN PATENTS 1978-2003/Mar W03

File 349:PCT FULLTEXT 1979-2002/UB=20030327,UT=20030320

Set	Items	Description
S1	442415	POLYMER?? OR THERMOPLASTIC? ? OR OLEFIN?? OR POLYOLEFIN?? - OR RUBBER? ?
S2	257131	POLYVINYL()CHLORIDE OR PVC OR POLYETHYLENE OR POLYURETHANE OR POLYSTYRENE OR POLYPROPYLENE
S3	88409	(ACRYLIC OR CELLULOSIC)()RESIN? ? OR ELASTOMER??
S4	9704	SODIUM()POLYSUL??IDE OR THIOKOL OR POLYCHLOROPRENE OR NEOP- RENE
S5	114226	STYRENE()BUTADIENE OR SBR OR NITRILE OR ACRYLONITRILEBUTAD- IENE OR ACRYLONITRILE()BUTADIENE
S6	10090	EPDM OR ETHYLENE()PROPYLENE()DIENE()RUBBER
S7	11726	POLYISOPRENE OR NATSYN OR BUTYL()RUBBER
S8	24843	POLYACRYLONITRILE OR HYCAR OR POLYSILOXANE
S9	602	BRAILLE
S10	284290	COMPUTER? ? OR PC
S11	362924	SCREEN? ? OR DISPLAY? ? OR MONITOR? ?
S12	276	IC=G09B-021/00
S13	551866	S1:S8
S14	75	S10(S)S11(S)S9
S15	16	S13 AND S14
S16	3	S12 AND S15
S17	13	S15 NOT S16

16/3,AB,K/1 (Item 1 from file: 348)

DIALOG(R)File 348:EUROPEAN PATENTS

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00974628

Mouse-like input/output device with tactile display

Mausartige Eingabe/Ausgabe-Einrichtung mit taktiler Anzeigevorrichtung

Dispositif d'entree/sortie de type souris avec affichage a tactile

PATENT ASSIGNEE:

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PATENT (CC, No, Kind, Date): EP 1021803 A1 000726 (Basic)
EP 1021803 B1 030312
WO 98031005 980716

APPLICATION (CC, No, Date): EP 97949081 971225; WO 97IL428 971225

DESIGNATED STATES: AT; BE; CH; DE; DK; ES; FI; FR; GB; GR; IE; IT; LI; LU;
MC; NL; PT; SE

INTERNATIONAL PATENT CLASS: G09G-005/08; G06F-003/033; G06K-011/18;
G09B-021/00

NOTE: No A-document published by EPO

LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS B	(English)	200311	743
CLAIMS B	(German)	200311	691

CLAIMS B	(French)	200311	796
SPEC B	(English)	200311	3378
Total word count - document A			0
Total word count - document B			5608
Total word count - documents A + B			5608

...INTERNATIONAL PATENT CLASS: G09B-021/00

...SPECIFICATION it easier for a blind person to use a computer.

Most interactions between users and **computers** are mediated by a visual **display**, on the **display screen** of a **monitor**, of information such as text and graphics. The interaction mode is obviously not suitable for...

...impaired users. A variety of interface devices are available that translate lines of text to **Braille**, for example the PowerBraille 40 of TeleSensory, Mountain View CA, and the INKA keyboard of...

...only one line of text at a time is displayed. The DMD 120060 dot matrix **display** into a form that can be read by touch. Text is translated into **Braille**, and graphical information is translated into corresponding patterns of raised and lowered pins. This full-**screen display** does both too much and too little. It does too much in the sense that, unlike a sighted user, who perceives the entire visual **display** at once, a blind user touches only a small part of the **display** at any given time, and reconstructs the whole **display** from a sequence of such partial touches. Therefore, it is not necessary to translate the entire visual **display** into tactile form all at once. It does too little in the sense that it may take up to 20 seconds or longer to refresh the **display** if most or all of the pins must be moved.

Several proposals have been disclosed...

...645 434 A (Genin Jaques) 12 October 1990 discloses an interface device, i.e. a **computer** mouse, comprising a pressable button for initiating an activity, and a tactile **display** for reproducing **Braille**.

JP 08-161117A (NEC Corp.) 21 June 1996 (machine translation thereof & Patent Abstracts of Japan...pin. Protruding through holes in lower surface 16 are two balls 30, preferably made of **rubber**-covered steel; In contact with balls 30 are transducers 32, two orthogonally positioned transducers 32...using only one mouse of the present invention. Just as a blind person often reads **Braille** using both of his or her hands, so a blind user can use two mice, one with each hand, to peruse two different parts of a **screen display** at once. For that matter, two sighted users may use two mice of the present invention to play a non-visual **computer** game. A sighted user also may use one mouse of the present invention to enable him or her to **monitor** two **displays** simultaneously, one visually and the other tactually. In addition, a sighted user may use a mouse of the present invention to enhance his or her perception of a wrap-around **display**, for example a **display** of a planetary map, in which the left side of the **screen** is adjacent in data space to the right side of the **screen**.

It also will be appreciated that the geometric correspondence between the screen display and the...

16/3,AB,K/2 (Item 1 from file: 349)

DIALOG(R)File 349:PCT FULLTEXT

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00767741

BRaille COMPUTER MONITOR
MONITEUR EN BRaille

Patent Applicant/Assignee:

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Patent and Priority Information (Country, Number, Date):

Patent: WO 200101374 A1 20010104 (WO 0101374)
Application: WO 2000US17761 20000628 (PCT/WO US0017761)
Priority Application: US 99141329 19990628

Designated States: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK

DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR
LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ
TM TR TT TZ UA UG UZ VN YU ZA ZW

(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE

(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG

(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW

(EA) AM AZ BY KG KZ MD RU TJ TM

Publication Language: English

Filing Language: English

Fulltext Word Count: 5997

English Abstract

A tactual computer monitor includes rows and columns of rectangular cells. Each cell (1, 2, 3, 4, 5, 6) includes four rows and two columns of movable pins (100) which are felt and read by a blind person. The pins are driven by electromechanical impact drivers and are held in position by resilient **elastomeric** cords (500). The impact drivers are carried on a bidirectional printhead which travels beneath the movable pins. An erasing mechanism (402) is provided to positively drive the pins downwardly to erase the characters produced by the printhead.

Main International Patent Class: **G09B-021/00**

Fulltext Availability: Detailed Description

Detailed Description

Background of the Invention

Field of the Invention

The present invention relates in general to apparatus for displaying **Braille** characters and relates in particular to an economical **Braille computer monitor** which **displays Braille** characters using rectangular cells composed of eight tactile members arranged in two columns of four...single cell is shown in Fig. 1A. This numbering scheme allows an 8-dot tactual **computer monitor** to not only **display** legacy 6-dot **Braille**, but also facilitates the large ASCII 8 bit, 256 symbol code.

In accordance with the invention, an 8-dot tactual paperless **Braille computer monitor** (TCM) is constructed as a paperless **computer**-controlled, realtime, refreshable, electro-mechanical, multi-line, **Braille display** or "monitor" device that enables the blind to read, write, or edit **Braille** documents directly from a mechanical **display monitor**, rather than from paper, and to communicate simultaneously with sighted **computer** users. The TCM serves the blind in the same way visual **display monitor** units serve sighted **computer** users.

To operate the TCM, the user switches on a host computer. The host computer...parts.

Detailed Description of the Preferred Embodiments

In accordance with the invention, a tactual paperless **Braille computer monitor**, "TCM", includes a two dimensional array of dot pins 100, one of which is shown...

- ...I B. The dot pins 100, which are mechanically forced up and down to respectively **display** or erase **Braille** text, are held in place laterally from one another by a set of three perforated...As seen in section in Fig. 3, four lengths of small diameter 40 durometer silicone **rubber** cord 500 are used as detent material to hold the dot pins 100 in the...
 - ...500 hold the dot pins in a lowered or retracted position. The four lengths of **rubber** cord 500 are positioned such that two lengths are situated between the top and middle...
 - ...the bottom and middle plates 200. As further seen in Figs. 1A and 3, the **rubber** cord 500 is located between the outer rows of the eight dot pins 100 making...
 - ...1A, the two cords 500 illustrate the relative plan view position of the silicone **rubber** cords 500 relative to the dot pins 100. Fig. 3 helps to illustrate the position...
 - ...retention plates 200 and to the dot pins 100 for a six line TCM. The **rubber** detent material of each cord 500 makes resilient physical contact with the dot pins 100...
 - ...are positioned between the plates 200 for vertical separation of the retention plates. The upper **rubber** cords 500 act as resilient pin alignment members to help to keep the dot pins 100 in vertical alignment. The lower **rubber** cords 500 act as resilient pin retention members to hold the pins 100...a compliant deformation in the detent material of the small diameter 40 durometer
- 6
- silicone **rubber** cord detent material interposed between adjacent outer cell rows of dot pins 100 and between the bottom and middle retention plates 200.
- The compliant deformation of the **rubber** cord 500 causes lateral **elastomeric** contact forces to be developed between adjacent outer row dot pins 100 and the lower silicone **rubber** cords 500. These contact forces hold the dot pins 100 in their displayed or raised positions. The upper silicone **rubber** cords 500 also exert some lateral **elastomeric** pressure forces and thus help to keep the dot pins 100 aligned vertically, especially when...of Figs. 4A, 4B and 4C, as the printhead 300 travels linearly underneath the TCM **display**, the optical switch 308 lines up sequentially with one of a series of holes in...
- ...302 mounted on the print head 300 fire against the dot pins 100 and thereby **display Braille** text. The solenoids 302 receive the signal to fire from the **computer** and the electronic control and software package. The TCM provides means for a blind person...
 - ...embodiments.

In another example, a display consisting of a single sheet of material such as **polyethylene** containing Braille cells formed in a pattern of binary flaps, hemispheres, or other shapes that...

17/6/3 (Item 3 from file: 348)
00994728
Dynamically relocatable tileable displays

17/6/8 (Item 5 from file: 349)
00933693

IMPROVED INFUSION DEVICE MENU STRUCTURE AND METHOD OF USING THE SAME

Publication Year: 2002

17/6/13 (Item 10 from file: 349)

00326294 **Image available**

NEED-ADAPTIVE ARCHITECTONIC SYSTEM FOR LEARNING/COMMUNICATING

Publication Year: 1996

17/3,AB,K/1 (Item 1 from file: 348)

DIALOG(R) File 348:EUROPEAN PATENTS

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01052128

Zoomorphic computer user interface

Zoomorphe Rechnerbenutzerschnittstelle

Interface utilisateur d'ordinateur zoomorphe

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PATENT (CC, No, Kind, Date): EP 929027 A2 990714 (Basic)

EP 929027 A3 000510

APPLICATION (CC, No, Date): EP 99300002 990104;

PRIORITY (CC, No, Date): US 5977 980112

DESIGNATED STATES: DE; FR; GB

EXTENDED DESIGNATED STATES: AL; LT; LV; MK; RO; SI

INTERNATIONAL PATENT CLASS: G06F-003/00; G06F-003/033; G06K-011/18

ABSTRACT EP 929027 A2

A zoomorphic computer for controlling a computer system includes an animal or humanoid shaped shell (10) having an attached transceiver (32) for two way communication with a computer system. A position detecting unit (22) determines position of the zoomorphic shell relative to the computer system, with change of position of the zoomorphic shell relative to the computer system changing state the zoomorphic shell or the computer system. The zoomorphic shell (10) can have movable elements such as arms or tails, attached to the zoomorphic shell, and support a feedback unit that communicates with the computer system, modifying position of a movable element in response to computer system output.

ABSTRACT WORD COUNT: 109

NOTE: Figure number on first page: 1

LANGUAGE (Publication,Procedural,Application): English; English; English

FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	9928	431
SPEC A	(English)	9928	13050
Total word count - document A			13481
Total word count - document B			0

Total word count - documents A + B 13481

...SPECIFICATION interaction (distinguishing a pinch from a prod).

One particularly preferred embodiment of a handheld portable **computer** that responds to a physical manipulatory grammar in accordance with the present invention includes a **computer**, a feedback module to provide visual, auditory, or tactile feedback to a user (e.g., processor connected LCD **display**, audio speaker, or tactile **display** to present **Braille** or other conventional touch interface), and co-mounted graspable, deformable piece partially or completely surrounding...

...a morpheme), the displayed data structure is modified. For example, text displayed on an LCD **display screen** may be automatically shifted rightward on the **screen** to allow pen based annotation on the left side of the **screen**, thereby aiding left handed users.

Physically manipulatable user interfaces additionally provide an opportunity for multiple...cloth or textile material, optionally supported by foam or plastics, including closed or open celled **polymeric** foam material having a wall thickness of millimeters to centimeters, with thinner walled embodiments being supported (e.g. by adhesive attachment) by an internal hard shell (constructed from **polymeric** or metallic materials), and those thicker walled embodiments directly supporting (by, e.g. brackets or...

...Suitable foams may include those composed in whole or in part of widely available synthetic **rubbers** such as **polychloroprene** (**neoprene**), polystyrenes, **rubber** or **nitrile rubber** latex foams, polysiloxanes, block **polymers** including **styrenebutadiene** or styrene isoprene, or any other conventional material having good elasticity and deformability;

a thin single layer **polymeric** surface loosely wrapped around a internal hard shell (the hard shell being constructed from **polymeric** or metallic materials). For example, a nylon or cotton weave, single layer **polyethylene**, synthetic **rubber** (with little or no foam cells present), or natural **polymeric** materials such as leather wrapped around a **polystyrene** casing can be used;

a composite layered surface having a durable **polymeric** outer layer supported by an inner foam layer; or even

a **polymeric** bilayer having an intermediate fluid or gel layer of a viscous or thixotropic material that...

17/3,AB,K/2 (Item 2 from file: 348)

DIALOG(R)File 348:EUROPEAN PATENTS

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00995451

A computer user interface using a manipulatory grammar

Rechnerbenutzerschnittstelle mit Verwendung einer durch Manipulation herbeigeführt Grammatik

Interface utilisateur d'ordinateur utilisant une grammaire manipulative

PATENT ASSIGNEE:

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AT;BE;CH;CY;DE;DK;ES;FI;FR;GB;GR;IE;IT;LI;LU;MC;NL;PT;SE)

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PATENT (CC, No, Kind, Date): EP 899650 A2 990303 (Basic)
EP 899650 A3 990506

APPLICATION (CC, No, Date): EP 98306789 980825;

PRIORITY (CC, No, Date): US 921274 970829; US 920443 970829; US 921414
970829; US 920378 970829; US 920363 970829; US 920981 970829

DESIGNATED STATES: DE; FR; GB

INTERNATIONAL PATENT CLASS: G06F-001/16;

ABSTRACT EP 899650 A2

A method for inputting information to a device connected to a deformable piece includes the steps of manipulating the deformable piece to provide a first morpheme input to the device. The first morpheme input normally triggers a first default action by the device, such as controlling a display, modifying a data structure, or communicating with another electronic device. When a user asynchronously manipulates the deformable piece to provide a second morpheme input to the device, the second morpheme input converts the normally triggered first default action to a second action generally not equivalent to the first default action. This mode of interaction allows formation of morphemic sentences to control a graspable device.

The method is implemented by a device (10) supporting a manipulatable user interface, the device comprising:

a feedback module (33) for presenting information related to a data structure,

a processor (24) for controlling the feedback module (33) and the data structure, and

a deformable piece (20) including multiple subregions. The deformable piece is attached in a vicinity to the feedback module (33), with the deformable piece contacting at least one sensor (22) that monitors positional changes within multiple subregions of the deformable piece (20). The at least one sensor (22) is connected to the processor (24).

ABSTRACT WORD COUNT: 212

LANGUAGE (Publication,Procedural,Application): English; English; English

FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	9909	424
SPEC A	(English)	9909	14521
Total word count - document A			14945
Total word count - document B			0
Total word count - documents A + B			14945

...SPECIFICATION interaction (distinguishing a pinch from a prod).

One particularly preferred embodiment of a handheld portable **computer** that responds to a physical manipulatory grammar in accordance with the present invention includes a **computer**, a feedback module to provide visual, auditory, or tactile feedback to a user (e.g., processor connected LCD **display**, audio speaker, or tactile **display** to present **Braille** or other conventional touch interface), and co-mounted graspable, deformable piece partially or completely surrounding...

...a morpheme), the displayed data structure is modified. For example, text displayed on an LCD **display screen** may be automatically shifted rightward on the **screen** to allow pen based annotation on the left side of the **screen**, thereby aiding left handed users.

Physically manipulatable user interfaces additionally provide an opportunity for multiple...for deformable surface 20 include, but are not limited to:

a closed or open celled **polymeric** foam material having a wall thickness of millimeters to centimeters, with thinner walled embodiments being supported (e.g. by adhesive attachment) by an internal hard shell (constructed from **polymeric** or metallic materials), and those thicker walled embodiments directly supporting (by, e.g. brackets or...

...Suitable foams may include those composed in whole or in part of widely available synthetic **rubbers** such as **polychloroprene** (**neoprene**), polystyrenes, **rubber** or **nitrile rubber** latex foams, polysiloxanes, block **polymers** including **styrene0 - butadiene** or styrene isoprene, or any other conventional material having good elasticity and deformability;

a thin single layer **polymeric** surface loosely wrapped around a internal hard shell (the hard shell being constructed from **polymeric** or metallic materials). For example, a nylon or cotton weave, single layer **polyethylene**, synthetic **rubber** (with little or no foam cells present), or natural **polymeric** materials such as leather wrapped around a **polystyrene** casing can be used;

a composite layered surface having a durable **polymeric** outer layer supported by an inner foam layer; or even

a **polymeric** bilayer having an intermediate fluid or gel layer of a viscous or thixotropic material that...

17/3,AB,K/5 (Item 2 from file: 349)

DIALOG(R)File 349:PCT FULLTEXT

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00982579

BRaille GENERATING APPARATUS

APPAREIL DE GENERATION DE BRAILLE

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KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU

SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG US UZ VN YU ZA ZM ZW

(EP) AT BE BG CH CY CZ DE DK EE ES FI FR GB GR IE IT LU MC NL PT SE SK TR
(OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG
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Publication Language: English

Filing Language: Korean

Fulltext Word Count: 2903

English Abstract

Disclosed is a Braille generating apparatus, which comprises a text data input part which receives a text document that will be converted into Braille; a phoneme division part which divides a phoneme of the text document that is provided from the text data input part; a Braille coding part which converts each phoneme that is divided from the phoneme division part into Braille; a Braille generation driving part which outputs Braille signal that is converted by the Braille coding part and drives a Braille generating part; the Braille generating part which receives signal from the Braille generation driving part, and indicates Braille; a control part which controls the above phoneme division part, the Braille coding part and the Braille generation driving part; and a key operation part for function operation, which is controlled by the control part.

Fulltext Availability:

Detailed Description

Claims

Detailed Description

... Lipper Frame 50 is located above the solenoid 58 and a latex type of thin **rubber** layer 52 lies between the Lipper frame 50 and the actuator tip 57 of the...

...solenoids 50 so that at least a Braille can be made with them and the **rubber** layer 52 is covered over them. When some of ...Fig. 5 are operated, the actuator tips 57 of them go up and make the **rubber** layer 52 protrude, which make a Braille. An undescribed reference numeral "60" in Fig. 4...from the memory and generates Braille.

C

Describing the embodiment illustrated in Fig. 1, briefly, the **PC** divides a phoneme of the text document and encodes each phoneme and the encoded data is saved into the memory 7. A **Braille** code Input part 9 of the **Braille** generating apparatus reads the encoded data from the memory 7 and the **Braille** generation driving part 8 **displays** the **Braille** data on the **Braille** generating part 10. Accordingly, the **Braille** generating

17

apparatus of Fig. 1 can become simpler than that of Fig. 1.

The constitution...

...the embodiment shall be described more closely below.

A text document which is written with **PC** or acquired from a web page, etc. and which is to be converted into **Braille** is input into the text data input part 2 and phoneme of the text document is divided by the phoneme division part 4 and each phoneme is encoded by the **Braille** coding part 6 and then ...data is saved in the Memory 7 such as a smart card, MMC. etc. A **Braille** code input part 9 of the **Braille** generating apparatus reads the encoded data from the memory and the **Braille** generation driving part 8 **displays** the **Braille** data on the **Braille** generating part 10. The control part 11 which is a microprocessor controls the **Braille** generation driving part 8 for **Braille** display and the key operation part 14 for function control of the **Braille**

generating apparatus.

The memory 7 in which the Braille data encoded by the Braille coding...

Claim

... phoneme of the text document into Binar-v or Hex code type file.

4 A **Braille** generating apparatus for the blind comprising:

9

a **Braille** code input part which receives **Braille** data from a memory
oC a **PC** that divides a phoneme of a text document which is to be
converted into **Braille** and encodes each phoneme into **Braille** code, or
from a web server throUcTh the internet. a **Braille** generation driviner
part which drives a **Braille** generating part with the
output of the **Braille** signal from the **Braille** code input part;
the **Braille** aenerating part which receives a signal from the **Braille**
creneration

C@

driving part, and **displays Braille** ;

a control part which controls the above phoneme division part. the
Braille

coding part and the **Braille** generation driving part; and

a key operation part for function operation, which is controlled by...

...up and down with the output signal from the Braille generation driving
part, and a **rubber** layer mounted over the solenoids.

the layer protruding when the actuators of the solenoids move...

17/3,AB,K/9 (Item 6 from file: 349)

DIALOG(R) File 349:PCT FULLTEXT

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00901419

TACTILE DISPLAY SYSTEM

SYSTEME D'ECRAN TACTILE

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Patent and Priority Information (Country, Number, Date):

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KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PH PL PT RO RU

SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW

(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR

(OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG

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(EA) AM AZ BY KG KZ MD RU TJ TM

Publication Language: English

Filing Language: English

Fulltext Word Count: 7537

English Abstract

A tactile display system (20) includes a housing (22) containing a
tactile pin (42) movable axially transverse of a reference surface (24)
and an actuator mechanism (44) engageable therewith for selective
movement between raised and lowered positions. An elongated electromagnet

(46) distant from the reference surface is aligned with the tactile pin and has spaced poles of opposite, selectively reversible, polarity. A generally spherical rotatable positioning member (40) being a permanent magnet having a peripheral surface which is partially a spherical surface (52) and partially a truncated surface (54) has an axis of rotation coaxial with the tactile pin and the electromagnet and is responsive to operation of the electromagnet, being movable between a first position at which the spherical surface faces the tactile pin, causing positioning of the tactile pin at the raised position and a second position at which the truncated surface faces the tactile pin causing positioning of the tactile pin at the lowered position.

Fulltext Availability:

Detailed Description

Claims

Detailed Description

... negative voltage to a bit that is in the low (logical 0) state. In a **computer Braille** example, a eight bit data bus would be established to drive all eight touch pins of a tactile **display** unit, which are arranged in a 2A matrix simultaneously. This is a departure from standard **Braille** which is comprised of six touch pins arranged in a 2x3 matrix. The present invention...a Braille character readout at the same scale as an embossed Braille text.

In a **computer Braille** application, each tactile **display** unit is preferably configured into a two-by-four matrix of these tactile **display** devices. By arranging these units into a matrix not unlike core memory or a **computer** keyboard, a series of these units can be addressed with a minimum of internal decoding...

...application of the invention as presented in this disclosure is as a device for representing **Braille** characters. However, any touchable type of **display** that utilizes a matrix of pins to represent numbers, letters, or figures could gain a benefit from this device. Other possible applications include **computer** CRT repeaters, adding machine **displays**, electronic clocks, digital thermometers, elevator floor indicators and any other device that utilizes digital **display** technology.

The ultimate goal of the invention is to provide a design that will result...facing and aligned with the annular shoulder 72. In this instance, the resilient member includes **polymeric** sealing material 76 having a resilient quality, for example, LOCTITE 5910 Flange Sealant part #21746...

...While Figs. 2 and 2a illustrate the simultaneous employment of both spring 70 and of **polymeric** sealing material 76 to bias the tactile pin in the direction of the actuator mechanism...

Claim

... shoulder facing and aligned with the first annular shoulder; and

wherein the resilient member includes:

polymeric sealing material encircling the tactile pin and extending between the first annular shoulder and the...the first annular shoulder of its associated transverse bore; and wherein the resilient member includes:

polymeric sealing material encircling each tactile pin within the first associated transverse bore adjacent the reference...and aligned with the first annular shoulder; and

wherein the resilient member includes:

a resilient **polymeric** sealing material encircling the tactile pin and extending between the first annular shoulder and the...

17/3,AB,K/12 (Item 9 from file: 349)

DIALOG(R) File 349:PCT FULLTEXT

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00440541

MOUSE-LIKE INPUT/OUTPUT DEVICE WITH DISPLAY SCREEN AND METHOD FOR ITS USE
DISPOSITIF D'ENTREE/SORTIE DE TYPE SOURIS AVEC ECRAN D'AFFICHAGE ET PROCEDE
D'UTILISATION

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MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU
ZW GH GM KE LS MW SD SZ UG ZW AM AZ BY KG KZ MD RU TJ TM AT BE CH DE DK
ES FI FR GB GR IE IT LU MC NL PT SE BF BJ CF CG CI CM GA GN ML MR NE SN
TD TG

Publication Language: English

Fulltext Word Count: 4162

English Abstract

A computer mouse (10) for blind users and a method for its use. The mouse (10) has a display area (20) on its upper surface (14) in which a portion of the computer's screen display is reproduced in tactile form, for example by raising and lowering members of an array of pins (22). A monochrome display is encoded by pin height. A color display may be encoded in various ways. Preferably, lightness is encoded as the range of vertical motion of the pins and hue is encoded as pin motion frequency. A blind user scans the screen display by moving the mouse around on a mouse pad and feeling the relative heights and frequencies of the pins.

Fulltext Availability:

Detailed Description

Detailed Description

... pin. Protruding through holes in lower surface 16 are two balls 30, preferably made of **rubber** -covered steel. In contact with balls 30 are transducers 32, two orthogonally positioned transducers 32...using only one mouse of the present invention. Just as a blind person often reads **Braille** using both of his or her hands, so a blind user can use two mice, one with each hand, to peruse two different parts of a **screen display** at once. For that matter, two sighted users may use two mice of the present invention to play a non-visual **computer** game. A sighted user also may use one mouse of the present invention to enable him or her to **monitor** two **displays** simultaneously, one visually and the other tactually. In addition, a sighted user may use a mouse of the present invention to enhance his or her perception of a wrap-around **display** ,

for example a **display** of a planetary map, in which the left side of the **screen** is adjacent in data space to the right side of the **screen** . It also will be appreciated that the geometric correspondence between the screen display and the...